

Notice of Allowability

Application N .

09/983,039

Examiner

Albert W Paladini

Applicant(s)

DODGE, ALEXANDRE PERCIVAL

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed on 10/22/01.
2. ☒ The allowed claim(s) is/are 1-64.
3. ☒ The drawings filed on 22 October 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/02,6/02,8/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Albert W. Paladini
ALBERT W. PALADINI
PRIMARY EXAMINER

Reasons for Allowance

1. The following is an examiner's statement of reasons for allowance: None of the art searched or the references cited disclose or teach alone or in combination positioning the subject object relative to a calibration pattern so that a selected part of the subject object is positioned in a predetermined position relative to the calibration pattern to create a three dimensional model in addition to and in the same relationship to the other limitations recited in claims 1, 2, 7, 13, 20-22, 30, 31, 36, 42, 47, 48, 49, and 54-60.

None of the references cited or the art searched disclose or teach alone or in combination positioning the three-dimensional model relative to a predefined virtual viewing camera in dependence upon a defined position in addition to and in the same relationship with the other limitations of claims 26, 27, 52, 53, 61 and 62.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Moezzi (5850352) discloses a telepresence and immersive video system, which is the non-real-time creation of a synthesized, virtual, camera/video image of a real-world scene, typically in accordance with one or more viewing criteria that are chosen by a viewer of the scene. The creation of the virtual image is based on a computerized video processing--in a process called hypermosaicing--of multiple video views of the scene, each from a different spatial perspective on the scene.

Klotz (5949433) discloses a method and system of processing three-dimensional image data where the virtual camera remains still while the virtual world moves around it; corresponding to a fixed real world that is viewed by a moving real camera. The relative movements are identical.

Weng (6081273) discloses a method and system for building three dimensional object models where each image is calibrated so that the exact position and orientation of the camera is known for each image.

Beardsley (6781618) discloses a hand held three-dimensional video system and teaches a method for generating a 3D model of an object of interest assuming a known "position-registration pattern" somewhere in the field of view. The term "position-registration pattern" is used here to indicate a calibration pattern that enables computation of the camera position relative to the pattern, in a fixed coordinate frame defined by the pattern. For example, a checkerboard pattern is placed behind the object while images are acquired. However, this method for computing camera position also has limitations. First, it is difficult to view the object from all directions, unless the position-registration pattern is relocated and the system is re-calibrated. Second, the presence of the pattern makes it more difficult to identify the boundary of the object, as a precursor to further processing for building a 3D model, than would be the case with a bland, low-texture background.

Matusik (6792140) discloses a system, which digitizes a three-dimensional object, which achieves a high-accuracy calibration for a particular camera configuration, with the use of a known calibration object. A 36-image sequence of a calibration object is acquired by each of several selectively placed cameras. A planar homography is determined for each visible calibration plane in each image, using the mapping between the canonical 2D calibration pattern and the projected view of the pattern.

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3. Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (571) 272-3748. The examiner can normally be reached from 7:30 to 3:30 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (571) 272-3749. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

January 21, 2005



Albert W. Paladini
Primary Examiner
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